**“GUESS MY RULE” GAME**

“Guess My Rule” illustrates how algebraic expressions (the RULEs) can be generated by observing number patterns. The game can be played 1st grade and beyond because the RULEs can be generated grade-level appropriate. Basic procedures for the game follow; an example is provided on the flip side.

1. Teacher begins the game, with a RULE in mind, but does not reveal it to the class;
2. One at a time, students call out a number at random;
3. Teacher writes on the board/OH both the number a student gives AND the resulting number after the RULE is applied. It is helpful to write the numbers in a tabular format.
4. Repeat steps 2 and 3 as necessary. When a student thinks s/he knows the RULE, then s/he says, “RULE.”
5. Teacher then gives the student a number and the student is to provide the resulting number based on what s/he thinks is the RULE. If the number the student says is correct, the Teacher can say, “I agree.” If it’s not, the Teacher can say, “I disagree” and can either provide the correct resulting number, or allow other students to state it.
6. Repeat steps 2- 5 as necessary. Monitor how many students are calling out “RULE.” Take a poll of how many students have determined the RULE. Play the round until the majority of the class determines the RULE.
7. Play several rounds w/ different type rules. If appropriate, allow students to lead a round.

**NOTE:** Always discuss the RULEs after a round, because students might use different ways to get to the same result. *For example*, suppose you have in mind “2*n* +2” as a RULE. A round of the game might yield the following:

|  |  |
| --- | --- |
| Called-out # | Resulting # |
| 3 | 8 |
| 10 | 22 |
| 4 | 10 |
| 7 | 16 |
| 0 | 2 |
| 1 | 4 |

Although a student recognizes the pattern and has in mind “2*n* +2”, another student could think of the RULE as “2(*n* + 1).” Because 2*n* + 2 = 2(*n* + 1), both students would get the same result. Discussing this scenario helps students understand how algebraic expressions can be simplified and equivalent to each other.

Students in earlier grades might “verbalize” their rule. For instance if given the rule above, a student could verbalize, “*Double the number and then add 2*.” Once this is written, you could have students create a “shortened” expression (using symbols) that would represent the statement, therefore getting them to think more algebraically.

Lastly, allow students to generate a rule; one at a time, have them take the lead in a round of the game. This promotes creativity and actively engages them in the learning process.